

Work Order ID 140193

140193

Page 1

Thursday, December 17, 2015 3:44:06 PM

Item ID: D3372-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Main Body

Start Date: 12/17/2015 Start Qty: 4.00

4

Cust Item ID:

Required Date: 12/17/2015 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: MLJ

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

DEC 18 2015

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3372	Rev B

100 0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blank: 1.500" x 3.000" x 4.450" long

DAS
14
9-89

16/01/05

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.06

HAAS CNC vertical machine #1

Machine D3372-1 as per Folio FA496 and Dwg D3372
Identify as D3372-1
Deburr

16/01/12

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

16/01/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Description Work Order Deviation				Disposition																																																													
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 140193

140193

Page 2

Thursday, December 17, 2015 3:44:06 PM

Item ID: D3372-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Main Body
 Start Date: 12/17/2015 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 12/17/2015 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							DAS 14 9-89
130						6	0		16/01/11
QC	Memo	0.00							
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140						6	0	90	16/01/11
HandFinish	Memo	0.01							
Hand Finishing									
150	Fire Red(Ref:4.3.5.10) per QSI005 4.3	0.00							
150						6	0	16-01-12	2339
Powdercoat	Memo	0.00							
Powder Coating	***Mask all holes and interior of the big hole***								

START TIME: 12:05
 OVEN TEMPERATURE: 320
 FINISH TIME: 12:50

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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140193

Page 3

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Revision ID: Stop ***NS2***
Item Name: Main Body
Start Date: 12/17/2015 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 12/17/2015 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							DAS 38 9-88
160									
QC	Memo	0.00							JAN 13 2016
Quality Control									
170	Identify as per dwg & Stock Location: <i>SH99</i>	0.00							
170									
Packaging	Memo	0.00							JAN 15 2016
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.01							JAN 15 2016
Quality Control									

MLJ JAN 15 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Page 1

Thursday, December 17, 2015 3:44:05 PM

Work Order ID: 140193

140193

Parent Item: D3372-1

D3372-1

Parent Item Name: Main Body

Start Date: 12/17/2015

Required Date: 12/17/2015

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP A05.01.18New issueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B30000X01.5 00		Purchased	No			100	f	12.0000	0.375	1.578947			

M6061T6B30000X01 500

6061-T6 Bar 3.00 x 1.50

**DAS
14
9-89**

Location

Loc Qty

Loc Code

MAT004

12

m133699

12

2.34

16/01/05

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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DART AEROSPACE LTD		Work Order: 140193
Description: Main Body		Part Number: D3372-1
Inspection Dwg: D3372	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

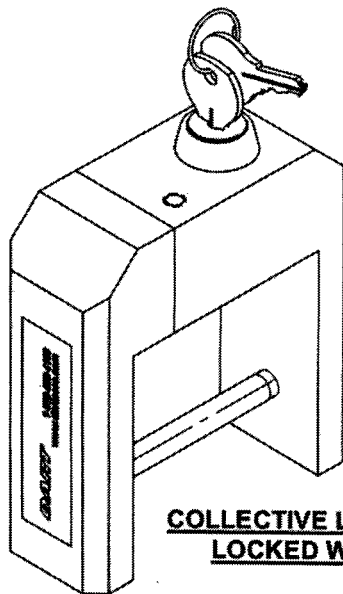
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.377	+0.005/-0.000	0,381	✓		MJP-04	vern
0.313	+/-0.010	0,309	✓		↓	↓
0.750	+/-0.010	0,751	✓		↓	↓
1.375	+/-0.010	1,373	✓		↓	↓
2.938	+/-0.010	2,936	✓		31006	Height gauge
2.200	+/-0.010	2,201	✓		...	...
4.31	+/-0.030	4,310	✓		MJP-04	vern
1.50	+/-0.030	1,503	✓		↓	↓
Ø1.300	+0.005/-0.000	1,300	✓		↓	↓
1.400	+/-0.010	1,400	✓		↓	↓
0.635	+0.010/-0.000	0,640	✓		↓	↓
0.750	+/-0.010	0,753	✓		↓	↓
0.200	+/-0.010	0,200	✓		↓	↓
Ø0.750	+0.010/-0.000	0,753	✓		↓	↓

Measured by: <i>[Signature]</i>	Audited by: DAS 14	Prototype Approval:	N/A
Date: 16/01/05	Date: 16/01/11	Date:	N/A

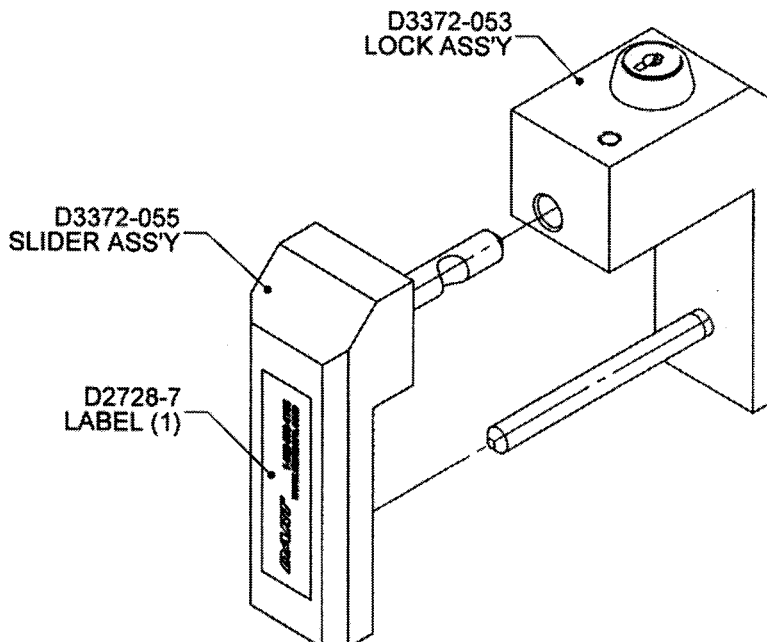
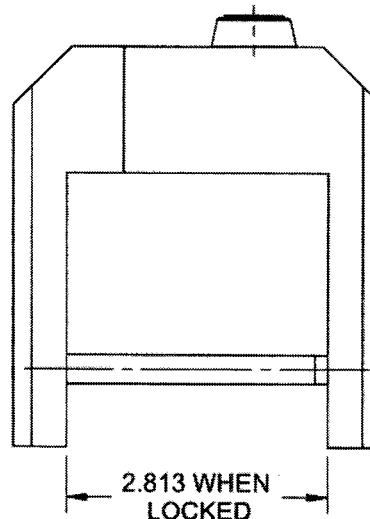
Rev	Date	Change	Revised by	Approved
A	05.04.26	New Issue	KJ/JLM	
B	08.09.09	Dimensions revised	KJ/DD	<i>[Signature]</i>



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3372	REV. B SHEET 1 OF 8
DATE 05.02.23		TITLE COLLECTIVE LOCK	SCALE 1:2
A	05.01.10	NEW ISSUE	
B	05.02.23	REDESIGN FOR STANDARD 1/4 TURN LOCK, D3369-5 SUPERCEDES D3372-11 (OBSOLETE)	



**COLLECTIVE LOCK SHOWN
LOCKED WITH KEYS**



D3372-051 AS350 COLLECTIVE LOCK ASS'Y

NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES

RELEASED
[Signature]
05/04/23

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 140193465
15-12-18

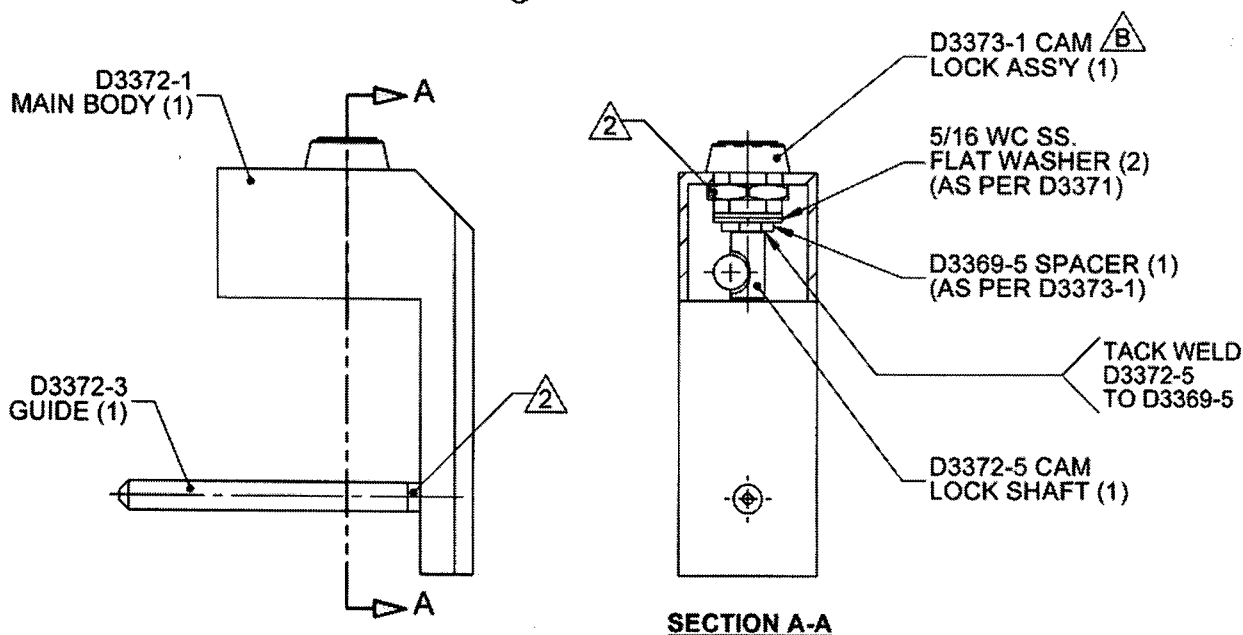
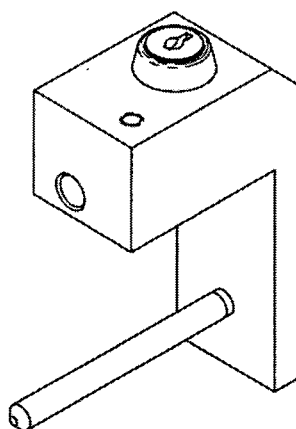
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DATE 05.02.23		TITLE COLLECTIVE LOCK	SCALE 1:2

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D3372-053 LOCK ASS'Y

NOTES:

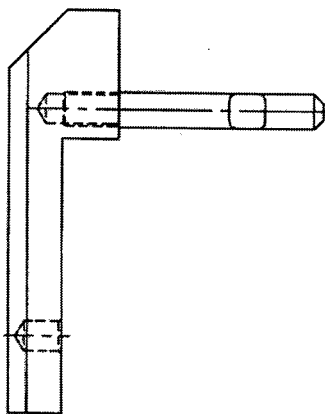
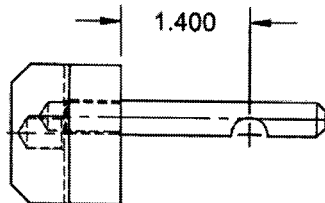
- 1) WELD PER DART QSI 004
- 2) APPLY THREADLOCKER LOCTITE 262 ON THREADS

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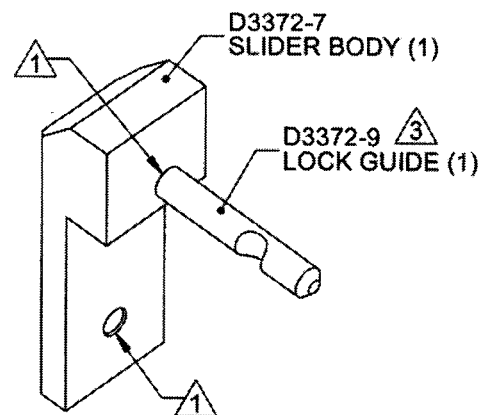
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D3372-055 SLIDER ASS'Y

NOTES:

- 1) COVER INSIDE HOLES AND D3372-9 PRIOR PAINTING
- 2) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) APPLY THREADLOCKER LOCTITE 262 ON D3372-9 THREADS PRIOR ASSEMBLY
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

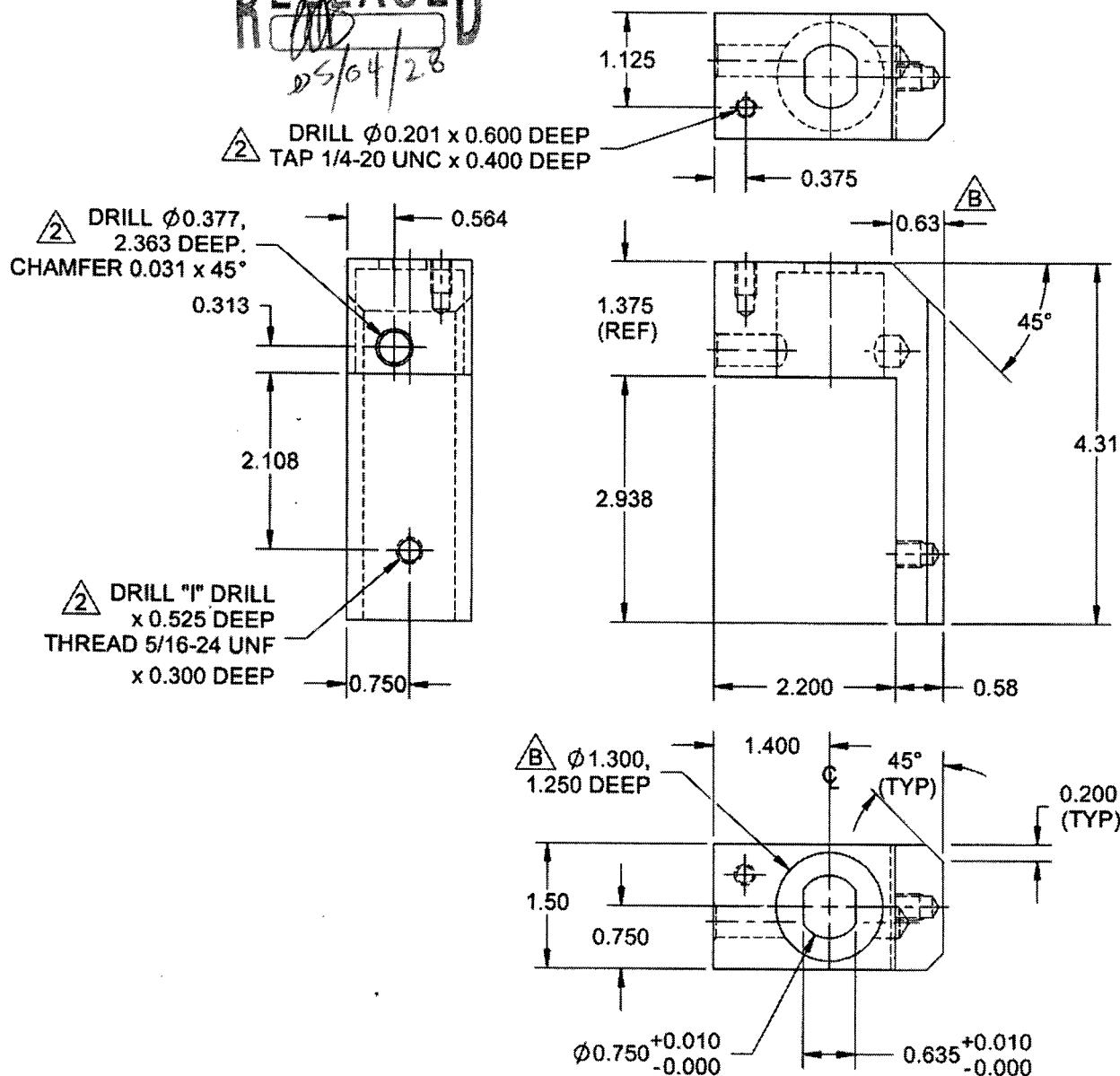
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DATE 05.02.23	TITLE COLLECTIVE LOCK		SCALE 1:2

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D3372-1 MAIN BODY

NOTES:

- 1) MATERIAL: 6061-T6/T651 (QQ-A-200/8 OR QQ-A-225/8)
(REF. DART SPEC. M6061T6B)
- 2) COVER INSIDE HOLES PRIOR PAINTING
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

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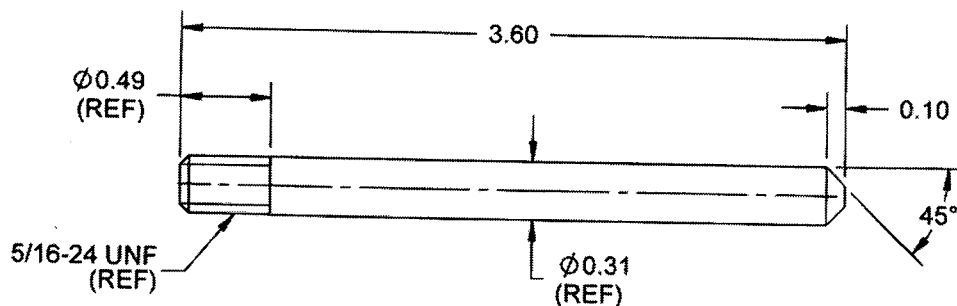
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DATE 05.02.23		TITLE COLLECTIVE LOCK	SHEET 5 OF 8 SCALE 1:1

SPECIFICATION CONTROL DRAWING

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D3372-3 GUIDE

NOTES:

- 1) MATERIAL: AN5-42A BOLT MODIFIED AS SHOWN.
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

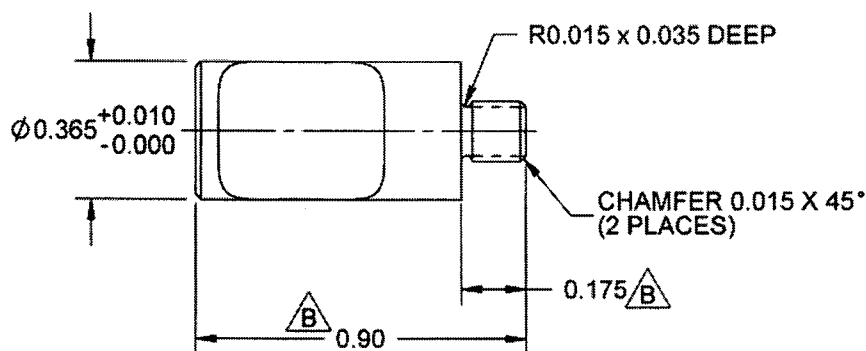
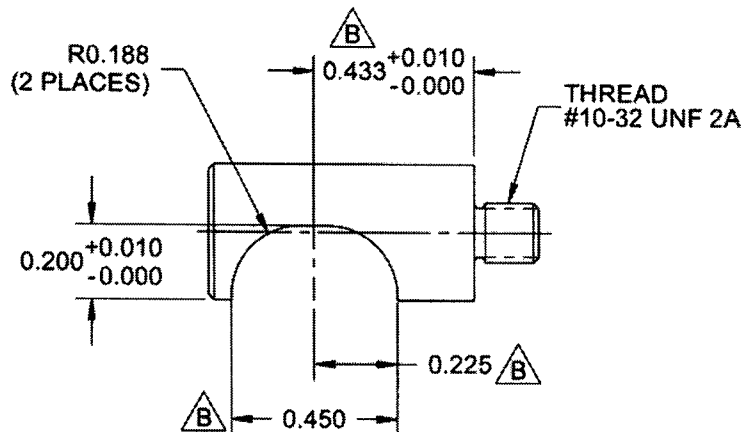
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DATE 05.02.23		TITLE COLLECTIVE LOCK	SCALE 2:1

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D3372-5 CAM LOCK SHAFT

NOTES:

- 1) MATERIAL: AISI 303 S.S. (REF. DART SPEC. M303R0.375)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

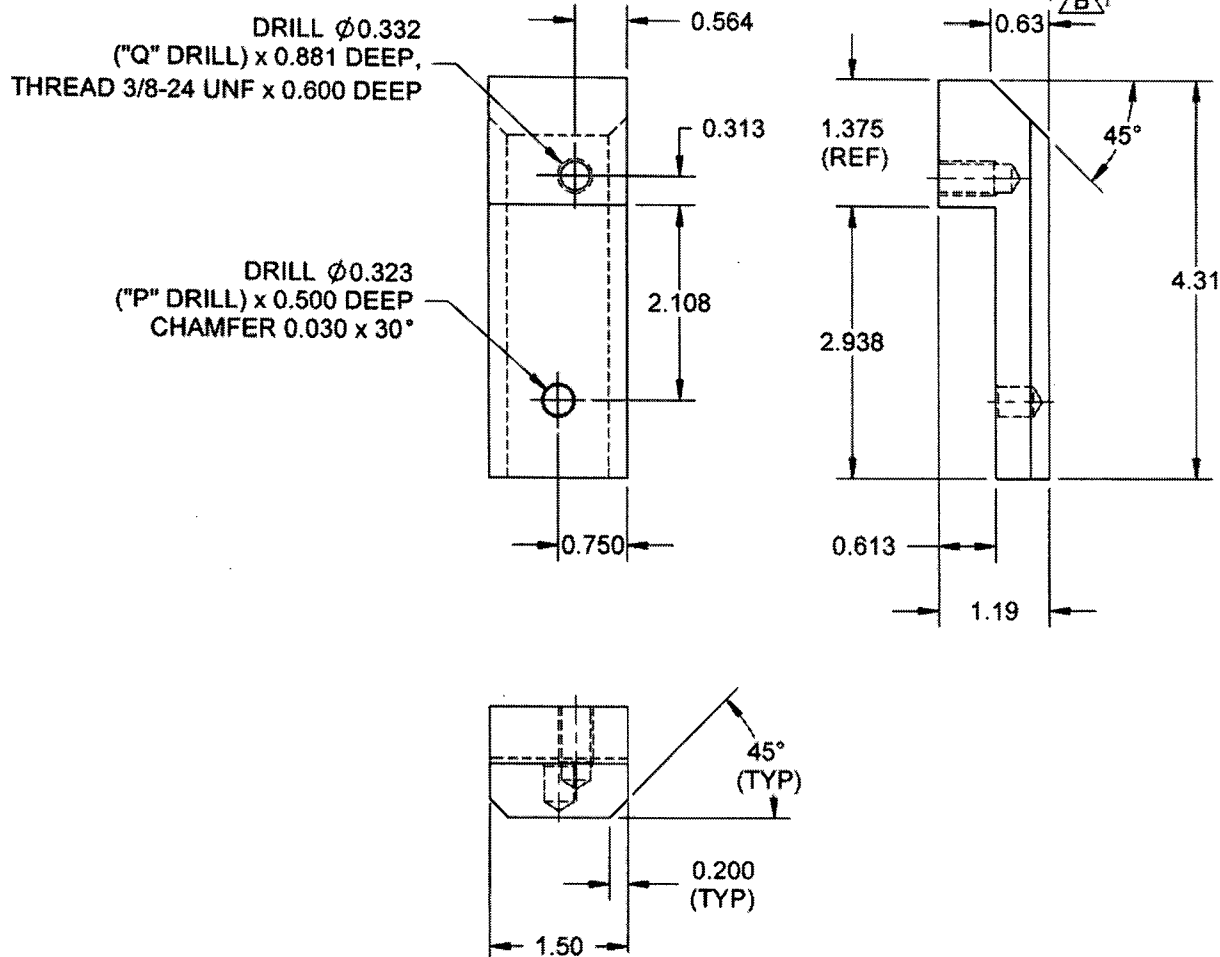
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D3372-7 SLIDER BODY

NOTES:

- 1) MATERIAL: 6061-T6/T651 (QQ-A-200/8 OR QQ-A-225/8)
(REF. DART SPEC. M6061T6B)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

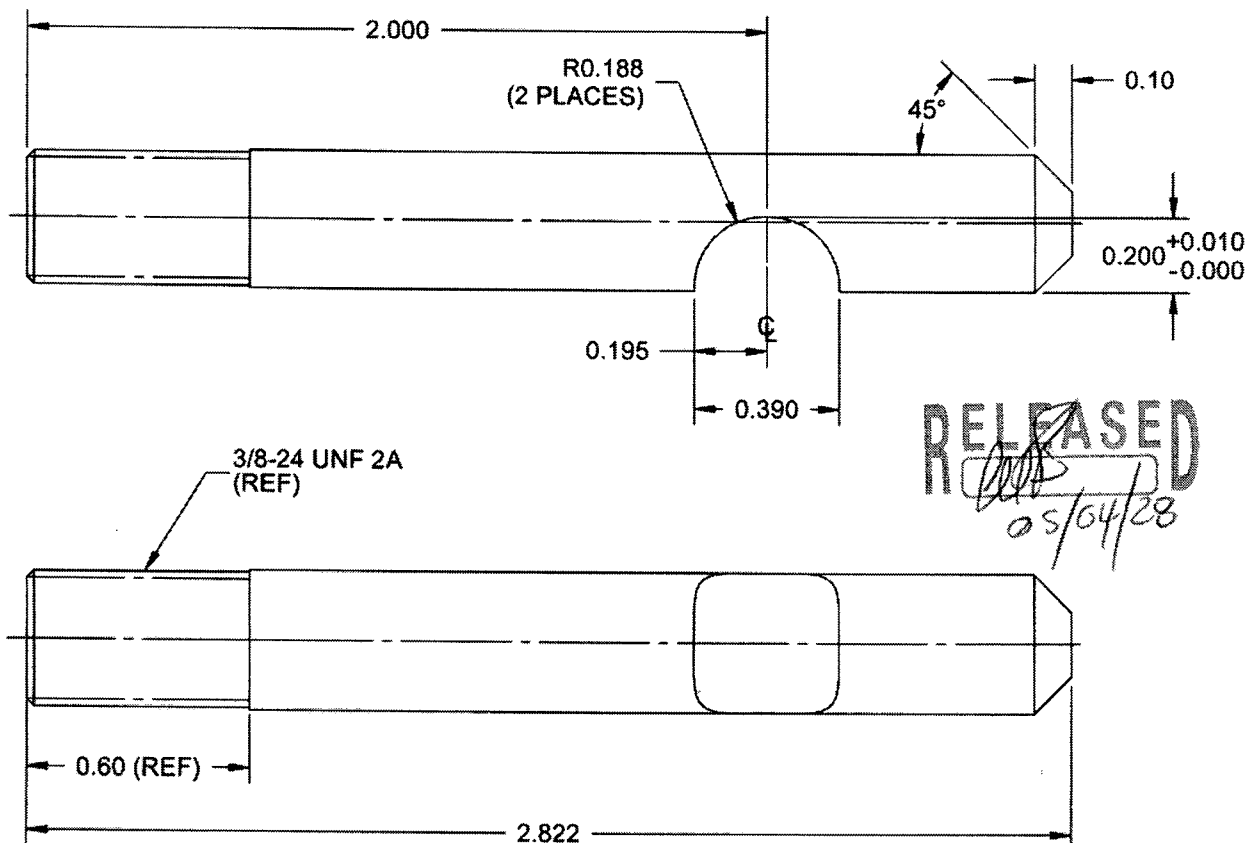
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DATE 05.02.23		TITLE COLLECTIVE LOCK	SCALE 2:1

SPECIFICATION CONTROL DRAWING



D3372-9 LOCK GUIDE

NOTES:

- 1) MATERIAL: AN6-36A BOLT, MODIFIED AS SHOWN
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

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